

CLAIMS

1. A method for synchronizing the phase of a code
available at a receiving unit with the phase of a
5 corresponding code of which samples are received at
said receiving unit, which synchronization comprises
comparing a received code sample with different
samples of said available code, the respective sample
of said available code being shifted in phase for
10 each comparison by a predetermined amount until a
correspondence with said received code sample is
determined or until an interrupt of said
synchronization occurs, wherein said synchronization
is continued after an interrupt with a newly received
15 code sample and with available code samples
proceeding from the code phase of said available code
reached in said synchronization before said
interrupt.
- 20 2. A method according to claim 1, wherein a specific
code phase of the available code is determined after
an interrupt by shifting the available code employed
before the interrupt by an amount corresponding to
the time elapsed between the time of reception of the
25 last code sample before said interrupt and the time
of reception of the new code sample after said
interrupt.
3. A method according to claim 2, wherein said
30 synchronization is equally ended when a comparison
has been carried out without success for all code
phases that can be reached with predetermined shifts.

4. A method according to claim 3, wherein said code phase of said available code is shifted by a predetermined amount until code samples spanning the entire code have been checked, and wherein, in case no correspondence between a received code sample and an available code sample is determined with the resulting code phases, said code phase is shifted once by a different predetermined amount for further comparisons.
5. A method according to claim 4, wherein said code samples are received at said receiving unit by a communication network in form of a pilot signal during an Idle Period, Down Link (IPDL).
6. A method according to claim 5, wherein a received code sample is stored in a dedicated random access memory (RAM), from which it is retrieved for said synchronization calculations.
7. A method according to claim 6, wherein said comparison is carried out by a matched filter performing correlation calculations on a respective pair of received and available code samples.
8. A receiving unit comprising:
- means for providing an available code;
 - means for receiving samples of a code via the air interface; and
 - means for synchronizing the phase of the available code with the phase of a code of which samples are

received by said means for receiving code samples via the air interface according to the method of claim 1.

- 5 9. A receiving unit according to claim 8, which is a location measurement unit (LMU) for a location system.
- 10 10. A mobile communication system comprising a transmitting unit for transmitting a coded signal and a receiving unit according to claim 8.
- 15 11. A mobile communication system according to claim 10, which is a wideband code division multiple access (WCDMA) system.
- 20 12. A method according to claim 1, wherein said synchronization is equally ended when a comparison has been carried out without success for all code phases that can be reached with predetermined shifts.
- 25 13. A method according to claim 1, wherein said code phase of said available code is shifted by a predetermined amount until code samples spanning the entire code have been checked, and wherein, in case no correspondence between a received code sample and an available code sample is determined with the resulting code phases, said code phase is shifted once by a different predetermined amount for further comparisons.
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14. A method according to claim 1, wherein said code samples are received at said receiving unit by a communication network in form of a pilot signal during an Idle Period, Down Link (IPDL).

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15. A method according to claim 1, wherein a received code sample is stored in a dedicated random access memory (RAM), from which it is retrieved for said synchronization calculations.

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16. A method according to claim 1, wherein said comparison is carried out by a matched filter performing correlation calculations on a respective pair of received and available code samples.

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